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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/661,696	09/14/2000	Tina Meinertz Andersen	6028.200-US	8978

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EXAMINER	
MOHAMED, ABDEL A	

ART UNIT	PAPER NUMBER
1653	9

DATE MAILED: 09/04/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/661,696	ANDERSEN, TINA MEINERTZ	
	Examiner	Art Unit	
	Abdel A. Mohamed	1653	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *27 June 2003* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-5,7-12 and 14-25* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-5,7-12 and 14-25* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

ACKNOWLEDGMENT OF AMENDMENT, REMARKS, CLAIM OF PRIORITY, STATUS OF THE APPLICATION AND CLAIMS

1. The amendment and remarks filed 6/27/03 are acknowledged, entered and considered. In view of Applicant's request, claim 6 has been canceled, claims 1, 5 and 14-20 have been amended and claims 21-25 have been added. Thus, claims 1-5, 7-12 and 14-25 are now pending in the application. With respect to the benefit of the priority claim, it is noted that Applicant claims the benefit of Danish application PA 1999 01308, filed 9/16/99 by submitting herewith a certified copy of the aforementioned Danish application. However, for the priority to be proper and/or effective, Applicant has to submit an executed substituted Declaration claiming the benefit of Danish application PA 1999 01308, filed 9/16/99. Until such Declaration is filed, the rejection under 35 U.S.C. 102(b) over WO 00/52142 is withdrawn and modified to a rejection under 35 U.S.C. 102(a). Also, the rejections under 35 U.S.C. 112, second paragraph and 35 U.S.C. 102(b) over U.S. Patent No. 5,716,777 are withdrawn in view of Applicant's amendment and remarks filed 6/27/03. However, the rejection under 35 U.S.C. 102(b) over WO 98/24883 is maintained for the reasons of record.

CLAIMS REJECTION-35 U.S.C. § 102(b)

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

Claims 1-5, 7-12, 4-20 and newly submitted claim 21 remain rejected under 35 U.S.C. 102(b) as being anticipated by WO 98/24883.

WO 98/24883 discloses similarly a solid composition comprising meiosis activating substance (MAS) and an additive, wherein the additive and organic solvent are components when added to MAS provide a composition which can be used to prepare an aqueous containing MAS. The preferred MAS is FF-MAS molecule, which is 4,4-dimethyl-5 -cholesta-8,14,24-triene-3-ol. With respect to the percentages content of water, organic solvent; the prior art does not disclose the above percentages content as claimed. However, the ranges disclosed in the prior art overlaps the claimed ranges. Further, it is the Examiner's position that since the above characteristics (i.e., percentages content) are in the properties and not in the structure of the claimed formulation/composition claimed, and as such it is inherent characteristics/properties of the prior art composition/formulation (See e.g., page 1, lines 5-31 ; pages 7-12, and the claims).

In regard to claim 12, which is directed to a device comprising a hollow containing the claimed composition, the prior art discloses the teaching of growing culture medium in a hollow container, and as such, the delivery system has a container or a hollow device containing the composition of MAS and additive for the purpose of growing cells thereof. Thus, the reference clearly discloses a composition comprising MAS and additive of which can be dissolved in the aqueous medium in with a culturing

system of a device containing a hollow composition thereof, and as such anticipates claims 1-5, 7-12, 4-20 and newly submitted claim 21 as drafted.

3. **ARGUMENTS ARE NOT PERSUASIVE**

CLAIMS REJECTION-35 U.S.C. § 102(b)

The rejection of claims 1-5, 7-12, 14-20 and newly submitted claim 21 under 35 U.S.C. 102(b) as being anticipated by WO 98/24883.

Applicant's arguments filed 6/27/03 have been fully considered but they are not persuasive. Applicant has argued that WO 98/24883 relates to cell culture media containing a sterol stabilized by surfactant, where the media may further contain a soluble carboxylic acid and/or an alcohol (See e.g., the abstract, page 5, lines 6-12 and page 7, lines 7-23). In particular, the prior art discloses that it has been surprisingly found that "surfactant can be used to the exclusion of protein agents" to incorporate cholesterol and/or other sterol into serum-free media (See e.g., page 5, lines 6-11). Further, the prior art states that "the present invention provides a cell culture medium containing one or more synthetic lipids or lipid precursors, for example, a sterol or a metabolically acceptable derivative thereof, in a solution stabilized by one or more surfactants and in the substantial absence of protein and of phospholipids" (See e.g., page 5, lines 20-25). However, by comparison, the present claims are directed to "a solid composition comprising a meiosis activating substance (MAS) and an additive which is protein or a phosphoglyceride" or to an aqueous solution or a device comprising the aforementioned composition. As none of the compositions of WO 98/24883 contain a protein or a phosphoglyceride as an additive, WO 98/24883 cannot anticipate the claims is not persuasive.

Contrary to Applicant's arguments, the prior art clearly on pages 1-2 discloses the advantages and disadvantages of using and/or adding additives, particularly proteins such as serum to grow cell cultures. Also, on page 8, lines 11-26, the reference indicates that it is necessary to add lipid solublizing materials such as serum, albumin or liposome to solublize certain basal media formulations which include one or more fatty acids such as linoleic acid. Further, on page 9, lines 29-34, WO 98/24883 states that the culture medium is preferably serum-free and also protein-free except that it may be advantageous to add a small quantity of insulin. Media containing insulin at the appropriate concentration for its use may still be regarded as substantially protein free. Therefore, in view of the claim language "comprising" which would not exclude or limit the type or amount of the protein and in view of fact that "and in the substantial absence of protein and of phospholipids" does not mean that it is absolutely free of proteins and phospholipids and in view of the statement above, WO 98/24883 discloses similarly a solid composition comprising meiosis activating substance (MAS) and an additive which is protein or a phosphglyceride, wherein the additive and organic solvent are components when added to MAS provide a composition which can be used to prepare an aqueous containing MAS. The preferred MAS is FF-MAS molecule, which is 4,4-dimethyl-5 -cholesta-8,14,24-triene-3-ol. With respect to the percentages content of water, organic solvent; the prior art does not disclose the above percentages content as claimed. However, the ranges disclosed in the prior art overlaps the claimed ranges. Further, it is the Examiner's position that since the above characteristics (i.e., percentages content) are in the properties and not in the structure of the claimed formulation/composition claimed, and as such it is inherent characteristics/properties of the prior art composition/formulation (See e.g., page 1, lines 5-31; pages 7-12, and the claims).

In regard to claim 12, which is directed to a device comprising a hollow containing the claimed composition, the prior art discloses the teaching of growing culture medium in a hollow container, and as such, the delivery system has a container or a hollow device containing the composition of MAS and additive for the purpose of growing cells thereof. Thus, the reference clearly discloses a composition comprising MAS and additive of which can be dissolved in the aqueous medium in with a culturing system of a device containing a hollow composition thereof, and as such anticipates claims 1-5, 7-12, 14-20 and newly submitted claim 21 as drafted.

Applicant's arguments that the WO 00/52142 is not prior art because the cited WO 00/52142 application was published on 9/8/00; i.e., after the 9/16/99 filing date of Danish application PA 1999 01308 to which benefits is claimed is noted. However, until Applicant submit an executed substitute Declaration claiming the benefit of Danish application PA 1999 01308 filed 9/16/99, the claims are rejected under 35 U.S.C. § 102(a).

4. Claims 1-5, 7-12, 14-22 are rejected under 35 U.S.C. 102(a) as being anticipated by WO 00/52142).

WO 900/52142 discloses similarly a solid composition comprising meiosis activating substance (MAS) and an additive which is a protein or a phosphoglyceride, wherein the additive and organic solvent are components when added to MAS provide a composition which can be used to prepare an aqueous containing MAS. The additive or additives capable of endogenous stimulation of the accumulation of at least one MAS (e.g., FSH and EGF) may affect maturation positively and provide the cumulus-oocyte complex with a meiosis promoting effect by two different mechanisms. One may be

through a positive stimulus on the cumulus cells, which affect the oocyte directly (See e.g., abstract and page 6, lines 13-17). Further, the selection of additives are listed on pages 9 and 21 which may include human serum albumin, FSH and analogues, growth hormones such as EGF and analogues, cholesterol, etc., as directed to claims 1, 5, 21-22. The preferred MAS is FF-MAS molecule, which is 4,4-dimethyl-5 -cholesta-8,14,24-triene-3-ol. With respect to the percentages content of water, organic solvent, and MAS; the prior art does not disclose the above percentages content as claimed. However, the ranges disclosed in the prior art overlaps the claimed ranges (See e.g., page 7, lines 26-30; page 10, lines 25-28; page 14, lines 18-33; Table 3a) as directed to claims 1-4, 9-11 and 14-20. Also, the reference on page 10, lines 32-33 discloses a medium which is water soluble and as such meet the limitation of claim 7. On Figure 2, the reference meets the limitation of claim 8, which is directed, to treatment of oocytes with aqueous solution results in a percent germinal vehicle breakdown (GVB) of at least 50%. Further, it is the Examiner's position that since the above characteristics (i.e., percentages content) are in the properties and not in the structure of the claimed formulation/composition claimed, and as such it is inherent characteristics/properties of the prior art composition/formulation (See e.g., pages 2-11 and the claims).

In regard to claim 12, which is directed to a device comprising a hollow containing the claimed composition, the prior art discloses the teaching of growing culture medium in a hollow container, and as such, the delivery system has a container or a hollow device containing the composition of MAS and additive for the purpose of growing cells thereof. Thus, the reference clearly discloses a composition comprising MAS and additive of which can be dissolved in the aqueous medium in with a culturing system of a device containing a hollow composition thereof, and as such anticipates claims 1-5, 7-12, 14-22 as drafted.

CLAIMS REJECTION-35 U.S.C. § 103(a)

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-5, 7-12 and 14-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over WO 98/24883 taken with Wang et al., (Journal of Parenteral Science & Technology, Vol. 42, Supplement pp. 4-26, 1988).

The reference of WO 98/24883 discloses similarly a solid composition comprising meiosis activating substance (MAS) and an additive which is protein or a phosphglyceride, wherein the additive and organic solvent are components when added to MAS provide a composition which can be used to prepare an aqueous containing MAS. The preferred MAS is FF-MAS molecule, which is 4,4-dimethyl-5 -cholesta-8,14,24-triene-3-ol. With respect to the percentages content of water, organic solvent; the prior art does not disclose the above percentages content as claimed. However, the ranges disclosed in the prior art overlaps the claimed ranges. Further, it is the Examiner's position that since the above characteristics (i.e., percentages content) are in the properties and not in the structure of the claimed formulation/composition claimed, and as such it is an expected characteristics/properties of the prior art composition/formulation (See e.g., page 1, lines 5-31; pages 7-12, and the claims).

In regard to claim 12, which is directed to a device comprising a hollow containing the claimed composition, the prior art discloses the teaching of growing culture medium in a hollow container, and as such, the delivery system has a container or a hollow device containing the composition of MAS and additive for the purpose of

growing cells thereof. Thus, the reference clearly discloses a composition comprising MAS and additive of which can be dissolved in the aqueous medium in with a culturing system of a device containing a hollow composition thereof.

The prior art of WO 98/24883 differs from claims 1-5, 7-12 and 14-25 in not teaching specifically the use of a protein additive, which is recombinant or native human serum albumin, or an additive, which is a phosphoglyceride. However, the primary reference clearly suggests the use of inorganic salts, amino acids, vitamins, and various other additives, which includes serum for maintaining the survival (i.e., viability, production of cell products and/or multiplication) of a basal cell culture medium (See e.g., page 1, lines 12-31). Thus, the above statements clearly suggest or motivate one of ordinary skill in the art the use of additives, which include serum for the purpose of maintaining the viability of cells in the basal media. Moreover, the secondary reference of Wang et al., clearly teaches the use of additives such as serum albumin as stabilizer by stating that serum albumin, regardless of its origin (rabbit, bovine or human), has been extensively cited in patents (e.g., Table I) and literature (Table Ia) as stabilizer for enzymes and other proteinaceous material. The reasons being for the choice of albumin over other proteins is its stability and solubility, and cites various mechanisms by which albumin acts as stabilizer (See e.g., pages S9 and S12). With respect of using phosphoglyceride as stabilizer, on page S13 the reference discloses that fatty acids and phospholipids (which includes phosphoglyceride) or their derivative are well known stabilizers of proteins and examples of phospholipids are phosphatidyl choline, serine and ethanolamine as claimed in the in claims 1 and 24-25. Thus, the secondary reference teaches the use of additives, which are human serum albumin or phosphoglyceride.

Therefore, given the teachings of the secondary reference of Wang et al., one of ordinary skill in the art would have been motivated to adapt the above scheme of using additives which are proteins or phosphoglyceride for the intended purpose of stabilizing a solid composition comprising a meiosis activating substance, because such features of stabilizing any protein of interest by using the additives of the secondary reference, namely, serum albumin and phospholipid are known in the art. Hence, including such features into the solid composition comprising a meiosis activating substance of the primary reference in view of the secondary reference, would have been obvious to one having ordinary skill in the art to obtain the known and recognized functions and advantages thereof. Thus, in view of the above and in view of the combined teachings of the prior art, one of ordinary skill the art would have been motivated at the time the invention was made to employ a solid composition comprising a meiosis activating substance and an additive which is a protein or a phosphoglyceride and a device formulation thereof, absent of sufficient objective factual evidence or unexpected results to the contrary.

CLAIM REJECTION-35 U.S.C. § 112 2nd PARAGRAPH

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

Claim 8 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 8 recites the limitation "wherein treatment of oocytes" in lines 2 and 3. There is insufficient antecedent basis for this limitation in claim 8 or claim 7 or claim 1.

Claim 8 is indefinite and confusing as to whether Applicant is trying to claim a composition or a method. Claim 8 also is indefinite in the recitation the acronym "FF-MAS". Use of the full terminology at least in the first occurrence would obviate this rejection.

CONCLUSION AND FUTURE CORRESPONDENCE

7. No claim is allowed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Abdel A. Mohamed whose telephone number is (703) 308-3966. The examiner can normally be reached on Monday through Friday from 5:30 a.m. to 5:00 p.m. The examiner can also be reached on alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christopher Low, can be reached on (703) 308-2923. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9308.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0196.

Christopher S. F. Low

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Mohamed/AAM

August 29, 2003